

AMENDMENTS TO THE ABSTRACT

The Abstract has been amended as follows:

The invention relates to a solid-state range sensing system. ~~An energy source is adapted to emit energy which is capable of reflection by a target.~~ As with previous solid-state range sensing systems, [[The]] an energy source is activated and deactivated in a cyclic pattern with a selected source frequency. A receiver is adapted to sense the reflection of emitted energy from [[a]] the target. The receiver includes a shielding system to block the sensing of the reflected energy from the target in a cyclic pattern with a selected receiver frequency. Unlike the prior art, the frequency of the source and receiver are offset by a small frequency. The resulting output signal of the receiver is a further cyclic pattern beat signal of frequency equal to the difference between the source activation and receiver shielding modulation frequencies. The best signal is effectively a down-converted version of the source modulation frequency and, unlike the prior art, is compared with a reference beat signal whereby the phase difference[[s]] between the two beat signals receiver signal and reference signal is used to determine a range value. The use of beat signals provides higher precision than the prior art.